Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

cally upon the relation of the appearance and duration of the various forms of life upon the earth to the breaks in the continuity of the sedimentary rocks. Postulating an earth-wave which should gradually force southward the depression of the Mediterranean, and thus convert Africa slowly into Europe, he endeavors to show what forms of life would be likely to persist. He then reviews some of the appearances and extinctions occurring in the various formations, and concludes that the sequence of life upon the earth points to the persistence of oceanic and continental areas, and to earth-movements of the nature of waves. The greatest breaks in the series of strata in England are those between the upper and lower old red sandstone, and between the Coal Measures and the Permian.

MINERALOGY.[1]

The Influence of Light on Minerals.—It may not be generally known that many minerals lose their color or fade when exposed to light. Experienced collectors frequently keep their most finely colored specimens in a dark place. Fluorite is especially liable to fade. Amazon stone, however, sometimes gains in color when exposed to light. A greenish-gray feldspar from the graphic granite veins at Ammeberg has been found to assume a bright emerald green when exposed to the air. Experiments made by Erdmann, by placing fragments in sealed tubes and exposing them to light for a year, led to the conclusion that air and moisture had no influence, but that light alone effected the change in color.

Rutile in Phlogopite.—The beautiful phenomenon of asterism is probably better shown in the well-known phlogopite of Burgess, Ontario county, Canada (often known as "star-mica"), than in any other substance. The flame of a candle looked at through a plate of the mica, appears as a six or twelve rayed star. As is shown by the microscope, this is due to the presence of minute linear crystals which cross each other at angles of 60°. The cause is the same as that which produces a two or four-rayed figure when a street lamp is looked at on a rainy night through an umbrella.

Mineralogists have long been puzzled to know precisely what these minute enclosed crystals are which thus produce the asterism, and they will be interested to know that they consist of *rutile*.

The needles are flattened and almost colorless in the Canadian mica, but in a mica from Bodenmais, Sandberger has found them of a deep reddish-brown color. Williams has also recently found needles of rutile in a magnesian mica which occurs in a mica diorite from the Black Forest.

---

[1] Edited by Professor H. Carvill Lewis, Academy of Natural Sciences, Philadelphia, to whom communications, papers for review, etc., should be sent.

A NEW USE FOR STRONTIANITE AND CELESTITE.—Quite a demand has recently sprung up for strontia minerals for use in separating sugar from molasses, especially for strontianite, and a good market is now open for that mineral. The strontianite is wanted for the preparation of strontium hydroxide, which has the property of precipitating sugar out of molasses. The mineral is ignited and then boiled with water, from which, on cooling, crystals of strontium hydroxide are formed. If this is heated with molasses and water a strontium saccharate is thrown down. This is filtered off, washed with a ten per cent strontium hydroxide solution, and then treated with water. It is thus decomposed and crystalline sugar is obtained on evaporating the filtrate.

"SULFURAIRES."—M. Plauchud, having shown that the presence of hydrogen sulphide in water containing vegetable matter is due to the action of some species of confervæ, which have the power of reducing sulphates to sulphides, formulates the theory that many of our natural mineral sulphides are due to the reducing action of this class of algæ. He sealed some of these algæ, which he designates "sulfuraires," between plates of gypsum, and after some months found granules of sulphur. Several other observers have noticed this chemical activity of certain algæ, and have shown that this action occurs only when the plants are alive.

CHLADNITE.—In 1846 Professor Shepard described under the name of chladnite a mineral which he regarded as a tersilicate of magnesia, which formed more than two-thirds of a meteorite which fell at Bishopville, S. C. The color of the mineral was snow-white, rarely tinged with gray, its luster was pearly to vitreous, it had a hardness of 6–6.5, specific gravity 3.116, and it fused readily before the blowpipe to a white enamel.

The meteorite was then investigated by W. S. von Walterhausen, who described the siliceous portion as containing ninety-five per cent of chladnite and the rest labradorite.

Still later Professor J. Lawrence Smith examined the meteorite, coming to the conclusion that chladnite was identical with enstatite. Rose and Rammelsberg also analyzed the chladnite, the latter stating that no feldspar was present.

Quite recently Dr. M. E. Wadsworth has examined the same meteorite and come to the conclusion that there is no such mineral as chladnite, and that it is an aggregate of enstatite, feldspar and augite ; with traces of other minerals. The microscope clearly reveals the compound nature of the supposed mineral, which has a granitic structure and is a rock belonging to the gabbro variety of basalts.

That such diverse conclusions should thus be reached by the most able investigators seems indeed most strange. The conclusion of Dr. Wadsworth, undoubtedly the correct one, clearly show the superiority of microscopical over chemical investigations in lithological work. Dr. Wadsworth supposes that the origin of the meteorite was similar to that of the terrestrial eruptive rocks. So many facts point to the essential unity of the universe that it is unwise to employ different names according as a rock comes from above or below. The name chladnite, either as rock or mineral, must therefore be abandoned.

NEW MINERALS.—M. Weibull describes as new three manganese minerals from Vester-Silfberg, Sweden, which occur with wad, manganesian garnet and manganiferous carbonate of lime.

Igelströmite, a silicate of iron and manganese, is a massive, dark-colored, crystalline mineral, having three cleavages, two of them distinct, and a vitreous to greasy luster. On the edges it is translucent with a yellowish color. Specific gravity 4.17. The composition is:

SiO_2	FeO	MnO	MgO	$CaCo_3$		
29.94	46.88	18.83	3.01	1.14	=	99.80

It appears to be merely a variety of knebelite, a mineral described more than fifty years ago by Döbereiner.

Silfbergite, apparently a manganiferous actinolite or anthophyllite, occurs in bladed crystals of a yellow color, resembling actinolite. Its cleavage, luster, hardness and specific gravity are about those of varieties of hornblende. Its composition is:

SiO_2	FeO	MnO	MgO	CaO	H_2O		
48.83	30.49	8.34	8.39	1.74	0.44	=	98.23

Manganhedenbergite, a manganiferous pyroxene, related to hedenbergite, is of a grayish-green color and has the general characters of the pyroxenes. Its composition is:

SiO_2	FeO	MnO	CaO	MgO	$\underbrace{Na_2O \quad K_2O}$		
48.29	24.01	6.47	17.69	2.83	0.22	=	99.51

From the descriptions given it would appear that these minerals are all merely varieties of well-known species. If new names must be given in such cases it is most desirable that in some way they should recall that of the more generic mineral of which they are the varieties. It will, indeed, not be long before all mineral species will be divided and subdivided into genera, species and varieties, as has already been done for garnet, feldspar, hornblende, mica, etc. A mineralogical text-book will then be something more than a catalogue. Meanwhile mineralogists, describing new species, should indicate, if possible, their generic position.

MINERALOGICAL NOTES.—Mineralogists frequently have to test for phosphoric acid in a mineral under examination, and generally use molybdate of ammonia acidulated with nitric acid as a reagent, as prescribed in works on determinative mineralogy. By adding a small crystal of nitrate of ammonia to the solution, the reaction becomes more delicate and the formation of the yellow precipitate occurs more rapidly.——Large deposits of mineral manure have been discovered in Russia. The deposits consist of a green sandstone and sand known as ancella-schicht. The sandstone consists of fifty per cent of calcium phosphate, twenty-five per cent of glauconite and ten per cent of quartz. The sand has forty per cent of glauconite. The sandstone is cemented by calcium phosphate, and is a most valuable manure.——Dr. Wadsworth has examined a supposed meteorite found at Waterville, Maine, just after the passage of a meteor over the town. The fragment was a cinder-like mass, the surface of which was coated by a fused crust. Although a report like that of a small cannon had been heard at the time the meteor was seen in the sky, suspicion was attached to this stone from the fact that the grass on which it lay was unchanged in appearance. Professor Shepard had analyzed it, but regarded it as doubtful. Examination showed that it was a slag-like body, long exposed to the action of the weather, and containing in its cavities remains of plant fibers. The fluidal structure and the fused matters seen under the microscope, showed that it was merely a slag from some earthenware manufactory, and in no sense a meteorite.——Some curious crystals of fluorite have recently been noticed from Bohemia. The crystals were combinations of cube, hexoctahedron and octahedron, remarkable for certain rectangular markings on the cubic faces. It has been shown that these markings are due to a double growth of the crystal whereby a simple crystal was first formed, afterward to be enclosed in a more complex crystal which was built up around the first. It is thus an enclosure of fluorite in fluorite.——Professor J. S. Newberry has contributed interesting articles on the formation of coal and the origin of carbonaceous matter in bituminous shales. He describes a number of facts regarding the bituminous coal fields of the Mississippi valley which clearly show that the "peat bog theory" gives the true explanation of the origin of that great deposit, as opposed to an "estuary or raft theory" now advocated by some geologists. He holds that the carbonaceous matter in bituminous shales is due to the presence of algæ, which thus are the primary source of petroleum and mineral gas.

BOTANY.[1]

THE GROWTH OF PLANTS IN ACID SOLUTIONS. II.—Before the plants could be analytically examined they became disarranged and some identifications lost. The following items are interesting:

The hydrochloric acid plant was examined for chlorine, the

---

[1] Edited by PROF. C. E. BESSEY, Ames, Iowa.